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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/719,963 | 11/21/2003 | Kiyoshi Suzuki | RCOH-0062USCON | 3576 |

21302 7590 12/13/2006

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EXAMINER

TRAN, PHUOC

ART UNIT PAPER NUMBER

2624

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,963

Applicant(s)

SUZUKI ET AL.

Examiner

Phuoc Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/16/06.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/16/06 has been entered.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 41 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 41 recites "method of image processing according to claim 36". However, claim 36 is an apparatus claim. Claim 41 should depend from claim 39 instead of claim 36.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 36, 38, 39, 41, 42, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bollman (Patent No. 5,204,665) and Applicants' admitted prior art (Fig. 1).

As to claim 39, Bollman et al disclose a method of image processing, comprising the steps of: inputting original image data including a pixel color value for each pixel represented by a first predetermined number of n bits in an original image (Fig. 1, step 10; col. 3, lines 1-35)

approximating the pixel color value into a second predetermined number of m bits while performing error diffusion so as to generate approximated color image data, the m bits being smaller than the n bits (Fig. 1, step 20; col. 3, lines 35-67);

processing the approximated color image data (Fig. 1, steps 50-70; col. 5, lines 4-65) ;

outputting a reproduced image based upon said processed approximated color image data (the last sentence of the abstract and col. 5, lines 53-59).

Bollman et al do not use a combination of image processing, intensity correction and color correction to process the approximate color image data. However, using a combination of image processing, intensity correction and color correction to process color image data is well-known in the art as evidenced by Applicants' admitted prior art Fig. 1, in blocks 6, 7 and 8. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the approximate color image data using a combination of image processing, intensity correction and color correction as taught by Applicants' admitted prior art Fig. 1, in blocks 6, 7 and 8 so that the approximate color image data would be enhanced and corrected with the proper gamma characteristics of a desired output device.

Alternatively, Applicants' admitted prior art Fig. 1 discloses all the claim limitations except for "approximating the pixel color value into a second predetermined number of m bits while performing error diffusion so as to generate approximated color image data, the m bits being smaller than the n bits" which is taught by Bollman et al (see Fig. 1, step 20; col. 3, lines

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35-67). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply Bollman et al's teaching in the Applicants' admitted prior art since using Bollman et al's teaching in the Applicants' admitted prior art would allow processing a color image with reduced color data, thereby reducing hardware requirements and processing time.

As to claim 41, Bollman et al teach that the approximating step performs dithering for the error diffusion (col. 3, lines 52-61).

As to claims 36, 38, 42, 44, these claimed directed to an apparatus for performing the method of claims 39, 41. The combination of Bollman (Patent No. 5,204,665) and Applicants' admitted prior art (Fig. 1) as explained above with respect to claims 39, 41, teaches such apparatus.

5. Claims 37, 40, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bollman (Patent No. 5,204,665) and Applicants' admitted prior art (Fig. 1) as applied to claims 36, 38, 39, 41, 42, 44 above, and further in view of Godshalk et al (Patent No. 5,384,646).

The combination of Bollman (Patent No. 5,204,665) and Applicants' admitted prior art (Fig. 1) as applied to claims 36, 38, 39, 41, 42, 44 above discloses all the claim limitations, except for the variable length encoder and decoder which are taught by Godshalk et al (Fig. 3A, items 112, 120; col. 5, lines 49-60). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the variable length encoder and decoder taught by Goshalk et al for the purpose of reducing image data for storing and transmitting.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuoc Tran whose telephone number is (571) 272-7399. The examiner can normally be reached on MON-FRI.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


PHUOCTRAN
PRIMARY EXAMINER